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EXAMINER

KRUER, KEVIN R

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 07/02/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

MF-30

**Office Action Summary**

Application N .

08/973,416

Applicant(s)

HARA ET AL.

Examiner

Kevin R Kruer

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on 23 May 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 and 20-31 is/are pending in the application.
- 4a) Of the above claim(s) 20 and 21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-13 and 22-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) 1-13 and 20-31 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Continued Prosecution Application***

The request filed on April 29, 2002 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 08/973416 is acceptable and a CPA has been established. An action on the CPA follows.

### ***Election/Restrictions***

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-13 and 22-31, drawn to a resin composition, a laminate comprising said resin composition, and a pellet comprising said resin composition, classified in class 428, subclass 515.
- II. Claims 20 and 21, drawn to a method of producing a resin composition, classified in class 524, subclass 386.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, the product could be made by a materially different process. For example, the product could be made by simultaneously mixing the insoluble thermoplastic resin, reducing organic compound, and the hydrophobic thermoplastic resin. Alternatively, the resins could have been kneaded at a temperature

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higher than the melting point of the reducing agent, or lower than the melting point of the insoluble thermoplastic resin.

Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

During a telephone conversation with Robert Mukai on Wednesday, June 19, 2002, a provisional election was made without traverse to prosecute the invention of Group I, claims 1-13 and 22-31. Affirmation of this election must be made by applicant in replying to this Office action. Claims 20 and 21 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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1. Claims 1, 3, 5-8, 22-24, 26-29, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koyama et al. (US 5,274,024) in view of JP-0172416 (assigned to Daiichi Seiyaku Co.) and Teumac et al. (US 5,663,223). Koyama teaches a laminate comprising an oxygen absorbing resin layer sandwiched between inner and outer layers (see Fig 2). The inner layer is most preferably a polyolefin (col 6, lines 27-36) with a thickness of 1-20 microns (col 6, lines 56-57). The oxygen absorbing resin is a blend comprising a polyvinyl alcohol and an olefin resin in a weight ratio of 1:99-90:10 (claim 1). An oxygen scavenger is incorporated into the blend in the amount of 5 to 200 parts by weight, per 100 parts by weight of the blend (col 6, lines 18-2). The inner layer allows permeation of oxygen and moisture and prevents direct contact between a liquid and the oxygen scavenger (col 6, lines 58-60). After the polyolefin, polyvinyl alcohol, and absorbing agent have been mixed, the resulting composition may be pelletized (see example 1). The examiner takes the position that the pellet made by the method taught in Koyama reads on a pellet made by the claimed method. The examiner takes this position because the claimed process and the process taught in Koyama each comprises blending the same three components in a melt prior to pelletizing.

Koyama does not teach that the oxygen scavenger may be an ascorbic acid, or that it is desirable for the layer to further include a zeolite. However, Daiichi Seiyaku teaches an oxygen scavenger comprising a zeolite, either synthetic or natural, which supports one or more ascorbic or araboascorbic acids, their salts or derivatives thereof. The weight of the zeolite is 1-50 times that of the ascorbic acid. The oxygen scavenger is incorporated into the foodstuff that it is protecting. While Daiichi Seiyaku does not

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teach the incorporation of a zeolite supported oxygen scavenger into a multi-layer laminate, Teumac teaches that oxygen scavengers that were once added directly to foodstuff are now being incorporated into the food-packaging container (see Background of the Invention, specifically, col 3, lines 48+). Therefore, it would have been obvious to one of ordinary skill in the art to incorporate the oxygen scavenger taught in Daiichi Seiyaku into the EVOH blend layer of the laminate taught in Koyama in order to enhance the oxygen barrier properties of the laminate.

2. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koyama et al. (US 5,274,024) in view of JP-0172416 (assigned to Daiichi Seiyaku Co.) and Teumac et al. (US 5,663,223), as applied to claims 1, 3, 5-8, 22-24, 26-29, and 31 above, and further in view of Moritani et al. (Pat. No. 4,999,229). Koyama in view of Daiichi Seiyaku and Teumac is relied upon as above. None of the relied upon references teach that the inner layer should have a moisture permeability of not less than 5 g/m<sup>2</sup>-day. However, Moritani teaches a three-layer laminate comprising an inner layer having low moisture permeability, an intermediate gas-barrier layer, and an outer layer. Moritani teaches that it is desirable that the inner layer has a moisture permeability of not more than 20g/m<sup>2</sup>-day and may be selected from the group consisting of polyolefins, polyamides, and polyesters (col 9, lines 21-45). It would have been obvious to one of ordinary skill in the art to utilize a polyolefin with a moisture permeability of not more than 20g/m<sup>2</sup>-day as the inner layer of the laminate taught in Koyama because Moritani teaches that laminates with such inner films possess superior gas barrier properties.

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3. Claims 1, 3, 5-8, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bettel III (US 5,320,889) in view of JP-0172416 (assigned to Daiichi Seiyaku Co.) and Teumac et al. (US 5,663,223). Bettel teaches a laminate comprising an ethylene vinyl alcohol inner layer and an adjacent layer comprising polyethylene and EVOH (10wt% or less)(col 7, lines 1-14).

Bettel does not teach that the layer comprising the HDPE/EVOH blend should contain a zeolite and an ascorbic acid. However, Daiichi Seiyaku teaches an oxygen scavenger comprising a zeolite, either synthetic or natural, which absorbs one or more ascorbic or araboascorbic acids, their salts or derivatives thereof. The weight of the zeolite is 1-50 times that of the ascorbic acid. The oxygen scavenger is apparently incorporated into the foodstuff it is protecting. While Daiichi Seiyaku does not teach the incorporation of a zeolite into a multi-layer laminate, Teumac teaches that oxygen scavengers that were once added directly to foodstuff are now being incorporated into the food-packaging container (see Background of the Invention, specifically, col 3, lines 48+). Therefore, since it is well known to incorporate oxygen scavengers into the layers of polymeric containers, it would have been obvious to one of ordinary skill in the art to incorporate the oxygen scavenger taught in Daiichi Seiyaku into the ethylene/EVOH blend layer of the laminate taught in Bettel in order to enhance its oxygen barrier properties.

4. Claims 1, 3, and 4-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lofgren et al. (US 5,133,999) in view of JP-0172416 (assigned to Daiichi Seiyaku Co.) and Teumac et al. (US 5,663,223). Lofgren teaches a laminate

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comprising a barrier layer composed of about 20-80 wt.% polyethylene and about 80-20wt.% ethylene vinyl alcohol (col 4, lines 61-68). The barrier layer is the inner layer of the laminate (see Fig 1).

Lofgren does not teach that the layer may comprise an oxygen scavenger or a zeolite. However, Daiichi Seiyaku teaches an oxygen scavenger comprising a zeolite, either synthetic or natural, which absorbs one or more ascorbic or araboascorbic acids, their salts or derivatives thereof. The weight of the zeolite is 1-50 times that of the ascorbic acid. The oxygen scavenger is apparently incorporated into the food it is protecting. While, Daiichi Seiyaku does not teach the incorporation of a zeolite into a multi-layer laminate, Teumac teaches that oxygen scavengers that were once added directly to foodstuff are now being incorporated into the food-packaging container (see Background of the Invention, specifically, col 3, lines 48+). Therefore, since it is well known to incorporate oxygen scavengers into the layers of polymeric containers, it would have been obvious to one of ordinary skill in the art to incorporate the oxygen scavenger taught in Daiichi Seiyaku into the regrind layer of the laminate taught in Lofgren in order to enhance the laminate's oxygen barrier properties.

5. Claims 1, 3, 5-11, 22-24, 26-28, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itamura et al. (US 5,492,953) in view of JP-0172416 (assigned to Daiichi Seiyaku Co.) and Teumac et al. (US 5,663,223). Itamura teaches a composition comprising a polyolefin and a saponified product of ethylene-vinyl acetate (abstract) in a ratio between 65:35 to 99.7:0.3 (col 4, lines 61-65). The ethylene-vinyl acetate has a saponification degree of at least 96% (abstract). The blend may be



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utilized in any number of different laminates (see col 9, lines 1-9) wherein F represents the ethylene/EVOH blend, A represents a polyolefin, B represents the saponified ethylene-acetate, and AD represents an adhesive.

Itamura does not teach that the composition may comprise a zeolite and oxygen scavenger. However, Daiichi Seiyaku teaches an oxygen scavenger comprising a zeolite, either synthetic or natural, which absorbs one or more ascorbic or araboascorbic acids, their salts or derivatives thereof. The weight of the zeolite is 1-50 times that of the ascorbic acid. The oxygen scavenger is apparently incorporated into the food it is protecting. While Daiichi Seiyaku does not teach the incorporation of a zeolite into a multi-layer laminate, Teumac teaches that oxygen scavengers that were once added directly to foodstuff are now being incorporated into the food-packaging container (see Background of the Invention, specifically, col 3, lines 48+). Therefore, since it is well known to incorporate oxygen scavengers into the layers of polymeric containers, it would have been obvious to one of ordinary skill in the art to incorporate the oxygen scavenger taught in Daiichi Seiyaku into the ethylene/EVOH layer of the laminate taught in Itamura in order to enhance the laminate's oxygen barrier properties.

Itamura further teaches that an additive may be blended with EVOH, extruded, pelletized, and then kneaded with the polyolefin resin (see example 24). Therefore, the examiner takes the position that it would have been obvious to one of ordinary skill in the art to knead the EVOH and the oxygen scavenging composition taught in Daiichi Seiyaku, and then disperse that composition into a polyolefin composition because

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Itamura shows that it is known to knead EVOH and a filler, and disperse the resulting composition into a polyolefin composition.

6. Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over any of the above combination of references and further in view of Hofeldt et al. (US 5,204,389). The combinations of references are relied upon as above. However, none of the combinations teach that the oxygen scavenger should be contained in amounts ranging from 0.05-10wt.% of the resinous composition. However, Hofeldt teaches a film for a container closure that comprises ascorbates or mixtures thereof with isoascorbates or sulfites (col 5, lines 3-7). The preferred amount of ascorbate is at least 0.5wt.% based on the polymeric matrix material, and it is generally less than 10wt% (col 5, lines 51-55). Therefore, since Hofeldt teaches that an effective amount of ascorbate for the purpose of oxygen scavenging is between 0.5-10wt%, it would have been obvious to one of ordinary skill in the art to utilize such amounts of ascorbate in the above taught laminates.

7. Claims 25 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koyama et al. (US 5,274,024) in view of JP-0172416 (assigned to Daiichi Seiyaku Co.) and Teumac et al. (US 5,663,223); or Itamura et al. (US 5,492,953) in view of JP-0172416 (assigned to Daiichi Seiyaku Co.) and Teumac et al. (US 5,663,223), as applied above, and further in view of Hofeldt et al. (US 5,204,389). The combinations of references are relied upon as above. However, none of the combinations teach that the oxygen scavenger should be contained in amounts ranging from 0.05-10wt.% of the resinous composition. However, Hofeldt teaches a film for a container closure that

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comprises ascorbates or mixtures thereof with isoascorbates or sulfites (col 5, lines 3-7). The preferred amount of ascorbate is at least 0.5wt.% based on the polymeric matrix material, and it is generally less than 10wt% (col 5, lines 51-55). Therefore, since Hofeldt teaches that an effective amount of ascorbate for the purpose of oxygen scavenging is between 0.5-10wt%, it would have been obvious to one of ordinary skill in the art to utilize such amounts of ascorbate in the above taught laminates.

8. Claims 1, 3, 5-8, 22-24, 26-29, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hekal (US 6,130,263) in view of JP-0172416 (assigned to Daiichi Seiyaku Co.). Hekal teaches a composition comprising a polymer matrix that communicates entrained desiccant particles to the appropriate areas of the exterior plastic body in a manner that permits moisture to migrate from outside the plastic structure to interior locations where the desiccant particles are positioned (col 6, lines 18-38). The composition comprises 30-80wt% desiccant, 20-40wt% matrix polymer, and 5-20wt% of a channeling agent (col 13, lines 23-35). The channeling agent is generally any hydrophilic material that has several hydroxyl groups (col 12, lines 55+). Such polymers include polyvinyl alcohol and EVOH (col 13, lines 1+). The matrix polymer is selected from the group consisting of polyolefins, polycarbonates, polyamides, acrylics, and any other thermoplastic material. Polyolefins such as polyethylene and polypropylene are preferred (col 12, lines 45+). The composition can be extruded as a film or converted into pellets (col 13, lines 35+). The examiner takes the position that the pellet made by the method taught in Hekal reads on a pellet made by the claimed method. The examiner takes this position because the claimed process

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and the process taught in Hekal each comprises blending the same three components in a melt prior to pelletizing.

Hekal does not teach that the desiccant material may comprise a zeolite.

However, However, Daiichi Seiyaku teaches a zeolite, either synthetic or natural, which absorbs one or more ascorbic acids, araboascorbic acids, their salts, or derivatives thereof. The ascorbic acid acts as an oxygen scavenger. The zeolite acts as a desiccant. The weight of the zeolite is 1-50 times that of the ascorbic acid. Therefore, it would have been obvious to one of ordinary skill in the art to incorporate the oxygen scavenger taught in Daiichi Seiyaku into the ethylene/EVOH layer of the laminate taught in Hekal in order to enhance the laminate's oxygen barrier properties.

9. Claims 1, 2, 6-8, and 22-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koyama et al. (Pat. No. 5,274,024) in view of Hofeldt et al. (US 5,204,389). Koyama teaches a laminate comprising an oxygen absorbing resin layer sandwiched between inner and outer layers (see Fig 2). The inner layer is most preferably a polyolefin (col 6, lines 27-36) with a thickness of 1-20 microns (col 6, lines 56-57). The oxygen absorbing resin is a blend comprising a polyvinyl alcohol and an olefin resin in a weight ratio of 1:99-90:10 (claim 1). An oxygen scavenger is incorporated into the blend in the amount of 5 to 200 parts by weight, per 100 parts by weight of the blend (col 6, lines 18-2). The inner layer allows permeation of oxygen and moisture and prevents direct contact between a liquid and the oxygen scavenger (col 6, lines 58-60). After the polyolefin, polyvinyl alcohol, and absorbing agent have been mixed, the resulting composition may be pelletized (see example 1). The

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examiner takes the position that the pellet made by the method taught in Koyama reads on a pellet made by the claimed method. The examiner takes this position because the claimed process and the process taught in Koyama each comprises blending the same three components in a melt prior to pelletizing.

Koyama does not teach the use of ascorbic acid as the reducing agent. However, Hofeldt teaches a sealing composition for a container closure comprising a polymeric matrix material that is modified by the inclusion of an oxygen scavenger (abstract). The oxygen scavenger is preferably a reducing agent that reacts with gaseous oxygen in an ionic reaction that requires the presence of moisture (col 4, lines 62+). Exposure of the matrix to a high humidity that normally exists within a sealed container may therefore result in sufficient permeation of moisture into the deposit to give a satisfactory degree of scavenging and improved shelf life (col 5, lines 23-32). The preferred amount of ascorbate is at least 0.5wt.% based on the polymeric matrix material, and it is generally less than 10wt% (col 5, lines 51-55). Thus, it would have been obvious to one of ordinary skill in the art to add at least 0.5wt% ascorbic acid to the laminate taught in Koyama in order to improve shelf life.

10. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koyama et al. (US 5,274,024) in view of Hofeldt et al. (US 5,204,389), as applied to claims 1, 2, 6-8, and 22-28 above, and further in view of Moritani et al. (US 4,999,229). Koyama in view of Hofeldt is relied upon as above, but does not teach that the inner layer should have a moisture permeability of not less than 5 g/m<sup>2</sup>-day.

However, Moritani teaches a three-layer laminate comprising an inner layer having low

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moisture permeability, an intermediate gas-barrier layer, and an outer layer. Moritani teaches that it is desirable that the inner layer has a moisture permeability of not more than  $20\text{g/m}^2\text{-day}$  and may be selected from the group consisting of polyolefins, polyamides, and polyesters (col 9, lines 21-45). It would have been obvious to one of ordinary skill in the art to utilize a polyolefin with a moisture permeability of not more than  $20\text{g/m}^2\text{-day}$  as the inner layer of the laminate taught in Koyama because Moritani teaches that laminates with such inner films possess superior gas barrier properties.

11. Claims 1, 6-8, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bettel III (US 5,320,889) in view of Hofeldt et al. (US 5,204,389). Bettel teaches a laminate comprising an ethylene vinyl alcohol inner layer and an adjacent layer comprising polyethylene and EVOH (10wt% or less)(col 7, lines 1-14). Bettel does not teach that the layer comprising the HDPE/EVOH blend should contain a zeolite and an ascorbic acid.

Bettel does not teach the use of ascorbic acid as the reducing agent. However, Hofeldt teaches a sealing composition for a container closure comprising a polymeric matrix material that is modified by the inclusion of an oxygen scavenger (abstract). The oxygen scavenger is preferably a reducing agent that reacts with gaseous oxygen in an ionic reaction that requires the presence of moisture (col 4, lines 62+). Exposure of the matrix to a high humidity that normally exists within a sealed container may therefore result in sufficient permeation of moisture into the deposit to give a satisfactory degree of scavenging and improved shelf life (col 5, lines 23-32). The preferred amount of ascorbate is at least 0.5wt.% based on the polymeric matrix material, and it is generally

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less than 10wt% (col 5, lines 51-55). Thus, it would have been obvious to one of ordinary skill in the art to add at least 0.5wt% ascorbic acid as an oxygen scavenger in the laminate taught in Bettel in order to improve shelf life.

12. Claims 1, 2, and 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lofgren et al. (US 5,133,999) in view of Hofeldt et al. (US 5,204,389). Lofgren teaches a laminate comprising a barrier layer composed of about 20-80 wt.% polyethylene and about 80-20wt.% ethylene vinyl alcohol (col 4, lines 61-68). The barrier layer is the inner layer of the laminate (see Fig 1).

Lofgren does not teach the use of ascorbic acid as the reducing agent. However, Hofeldt teaches a sealing composition for a container closure comprising a polymeric matrix material that is modified by the inclusion of an oxygen scavenger (abstract). The oxygen scavenger is preferably a reducing agent that reacts with gaseous oxygen in an ionic reaction that requires the presence of moisture (col 4, lines 62+). Exposure of the matrix to a high humidity that normally exists within a sealed container may therefore result in sufficient permeation of moisture into the deposit to give a satisfactory degree of scavenging and improved shelf life (col 5, lines 23-32). The preferred amount of ascorbate is at least 0.5wt.% based on the polymeric matrix material, and it is generally less than 10wt% (col 5, lines 51-55). Thus, it would have been obvious to one of ordinary skill in the art to add at least 0.5wt% ascorbic acid as an oxygen scavenger in the laminate taught in Lofgren in order to improve shelf life.

13. Claims 1, 2, 6-11, and 22-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itamura et al. (Pat. No. 5,492,953) in view of Hofeldt et al. (US

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5,204,389). Itamura teaches a composition comprising a polyolefin and a saponified product of ethylene-vinyl acetate (abstract) in a ratio between 65:35 to 99.7:0.3 (col 4, lines 61-65). The ethylene-vinyl acetate has a saponification degree of at least 96% (abstract). The blend may be utilized in any number of different laminates (see col 9, lines 1-9) wherein F represents the ethylene/EVOH blend, A represents a polyolefin, B represents the saponified ethylene-acetate, and AD represents an adhesive.

Itamura does not teach the use of ascorbic acid as the reducing agent. However, Hofeldt teaches a sealing composition for a container closure comprising a polymeric matrix material that is modified by the inclusion of an oxygen scavenger (abstract). The oxygen scavenger is preferably a reducing agent that reacts with gaseous oxygen in an ionic reaction that requires the presence of moisture (col 4, lines 62+). Exposure of the matrix to a high humidity that normally exists within a sealed container may therefore result in sufficient permeation of moisture into the deposit to give a satisfactory degree of scavenging and improved shelf life (col 5, lines 23-32). The preferred amount of ascorbate is at least 0.5wt.% based on the polymeric matrix material, and it is generally less than 10wt% (col 5, lines 51-55). Thus, it would have been obvious to one of ordinary skill in the art to add at least 0.5wt% ascorbic acid as an oxygen scavenger in the laminate taught in Itamura in order to improve shelf life.

14. Claims 3-5 and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itamura et al. (Pat. No. 5,492,953) in view of Hofeldt et al. (US 5,204,389); or Koyama et al. (Pat. No. 5,274,024) in view of Hofeldt et al. (US 5,204,389), as applied above, and further in view of Blinka et al. (US 5,834,079). The references are relied



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upon as above. None of the references teach that zeolite may be added to the claimed compositions. However, Blinka teaches that zeolites may be added to oxygen scavenger containing compositions in order to absorb odor-causing reaction byproducts (col 4, lines 46+). Thus, it would have been obvious to one of ordinary skill in the art to add zeolite to the oxygen scavenger composition taught in Itamura in view of Hofeldt and Koyama in view of Hofeldt in order to reduce byproduct odors.

### ***Response to Arguments***

This action is a first action following the filling of a CPA on May 23, 2002. Therefore, no rejections are outstanding. However, the examiner would like to take this opportunity to respond to some of the arguments on record which may be relevant to the present rejections.

Applicant argues that by kneading the reducing agent and the hydrophilic thermoplastic and then adding said kneaded product to a hydrophobic resin, the resulting product is a dispersion of localized areas of hydrophilic thermoplastic and the reducing agent in a hydrophobic matrix. Applicant provides a declaration that includes resin particles produced from the direct compounding of the water insoluble resin, the reducing compound, and the hydrophobic resin. However, only one of the Comparative Examples (comparative example A) correlates (with respect to parts by weight) to the examples in the specification (example 1). The other comparative examples cannot be used to show unexpected results since more than one variable is altered (the composition and method of processing).

Furthermore, Applicant's arguments do not agree in scope with the claimed invention. Applicant's data attempts to show the difference between a resin particle manufactured according to the disclosed method, and a particle manufactured

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according to the teachings of the prior art. However, the claims are no limited to a particle wherein the reducing compound and the water insoluble compound are initially mixed, and then dispersed in the thermoplastic resin at a temperature lower than the melting point of the water insoluble resin. If the reducing agent and water insoluble resin were dispersed in the thermoplastic resin at a temperature above the melting point of the insoluble resin (an embodiment on which the claim currently reads), there would be no significant difference between the claimed pellet and the pellets taught in the prior art. Thus, applicant's arguments are not persuasive.

While Shozo Shimizu's declaration argues that unexpected results will be observed in pellet, composition, or film form. However, Applicant's arguments cannot take the place of evidence. Furthermore, the declaration does not disclose how the claimed composition, films, and pellet, differ from the prior art. Shimizu's declaration also does not make up for the deficiencies noted for the previous declaration.

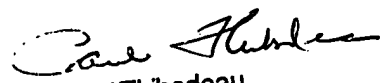
### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin R. Kruer whose telephone number is (703) 305-0025. The examiner can normally be reached on Monday-Friday from 7:00 a.m. to 4:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau, can be reached on (703) 308-2367. The fax phone number for the organization where this application or proceeding is assigned is (703)305-5436.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.

Kevin R. Kruer, Patent Examiner



Paul Thibodeau  
Supervisory Patent Examiner  
Technology Center 1700